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ABSTRACT

Nearly 15,000 students were administered the Alaska Statewide Assessment Test--virtually all fourth and eighth grade students. Preliminary results indicated that eighth graders made substantial improvements in both reading and mathematics performance. Fourth grade scores were basically unchanged since 1983. There was also little change between 1981 and 1983. After 1983, several efforts were made to relate students' performance to statements of statewide strengths and weaknesses and curriculum objectives. Test items were selected from the Alaska Objectives and Items Bank. There were six subtests, each containing 10 to 16 items, in each assessment test. Average statewide scores were, for grade 4: total mathematics, 72 percent correct, and total reading 67.8 percent. Other scores were obtained for mathematics application, concepts, and computation; and reading comprehension, word skills, and study skills. For grade 8, the total mathematics score was 71.7 percent and the total reading score was 74.4 percent. Results also indicated limited achievement on the study skills subtest. (GDC)

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Grade 8 Assessment Scores Improve But Grade 4 Results Are Mixed

Assessment Report 11: An Update on the Alaska Statewide Assessment Program

Office of Evaluation, Assessment & Research
Alaska Department of Education
May 1985

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ASSESSMENT REPORT 11

Alaska
Department
of Education
(907) 465-2966
May 1985

An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

GRADE 8 ASSESSMENT SCORES IMPROVE
But Grade 4 Results Are Mixed

Results from the 1985 administration of the Alaska Statewide Assessment Test show that eighth graders in the state have made substantial improvements in both their reading and mathematics performance. Fourth graders' scores, however, are basically unchanged from 1983. Compared to the 1981 scores, results are up in three of four comparisons as shown by the charts on the next page. This Assessment Report provides the initial results from nearly 15,000 students who participated in the testing. This number -- the largest ever tested in Alaska -- represents virtually all fourth and eighth grade students.

As schools completed their testing, answer sheets were sent to the Department of Education's contractor in Portland for scoring. Class reports and school averages were sent back to schools within 24 hours of receipt of the answer sheets in Portland; indepth analyses are being conducted now and results will be sent to districts during the summer. This newsletter provides the preliminary state averages from the tests.

The graphs on the next page show total reading and math average scores in 1981, 1983 and 1985, presented according to the grade level tested. Readers will note that there was little change in performance between 1981 and 1983. That is not too surprising; during that time, there was relatively little emphasis on curriculum at the Department of Education -- there were no curriculum specialists who could do anything with the assessment results, for example. Further, there were no significant statewide educational changes that would have led to higher assessment

(see Results Mixed, next page)

A staff member of Interwest Applied Research scores a portion of the almost 15,000 answer sheets that were received as part of the 1985 Alaska Statewide Assessment Test.

Assessment Is Only Statewide Indicator

Can Alaska students determine the most important point in a written narrative? Can they differentiate facts from opinions? Do they know how to compute the area of a building or the amount of gasoline it will take to travel a certain distance by snowmobile? Alaskans, like most citizens throughout the United States, want to know whether their children are acquiring these and other important basic skills they will need to pursue their education.

While all districts have their own assessment program in which they administer achievement tests, it is impossible to combine results from these tests to provide state averages because many different tests are used by the districts. Thus, there is no way to tell how well students in the state as a whole are achieving. As a result, there is currently only one valid indicator of students' basic skills achievement on a statewide basis -- the Alaska Statewide Assessment Test.

Every second year, the Alaska Department of Education conducts an assessment of the basic skills achievement of all fourth and eighth graders in the state. The most recent of these was administered during the week of March 25-29, 1985. Earlier tests were given in 1977, 1979, 1981 and 1983.

The assessment objectives were selected by content panels of Alaska educators who agreed that they represent skills important for all Alaska students. They are not "minimum competencies" for fourth and eighth graders; many districts may not teach certain skills included on the test until later grades. But assessment results do provide an opportunity for educators and citizens to compare the performance of local students to Alaska students statewide, and then to decide whether they are

(see Indicator, page 3)

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Results Mixed

(continued from page 1)

scores. And while some effort was devoted to advising districts and schools about the skills to be tested on the assessment, this information was not highly publicized. In general, scores could be expected to improve dramatically only if emphasis was given, on a statewide basis, to improving mastery or increasing awareness of the skills covered by the test.

After the 1983 assessment, several efforts were made to relate students' performance to statements of statewide strengths and weaknesses. The objectives tested in the assessment were matched to lists of desired curriculum developed by the Alaska State Reading Association and the Alaska Council of Teachers of Mathematics. The areas of weakness identified by the Statewide Interpretive Panels (see related article on page 3) were highlighted in Assessment Report newsletters and on a wall chart distributed to all schools at the beginning of the 1984-85 school year.

One might have expected that this increased attention to publicizing the results of the assessment would have resulted in improved performance on the 1985 tests. And, as can be seen by observing the 1985 bars on the accompanying graphs, that appears to have happened with the eighth graders -- but, for some reason, not with the fourth graders. There is no immediately obvious explanation for this result, but indepth investigations will be made in an attempt to explain the different performances to the fullest extent possible.

The eighth graders' scores represent "real" improvements. The 2.4% improvement in math means that about one more item was answered correctly on the 1985 test than on the 1983 test. The 3.6% improvement in reading means that about one and a half more items were answered correctly this year. The slight declines in performance by fourth graders, on the other hand -- .8% in math and .4% in reading -- can be easily explained by normal variation in the difficulty of test items from one year to another. Thus, it would be improper to say that fourth graders performed significantly worse in 1985 than in 1983. On the other hand, the decline of 4.2% in math from 1981 to 1985 should be considered significant.

In summary, it is possible to say that eighth grade scores do appear to have improved substantially, breaking the history of steady performance on the statewide assessment tests shown between 1981 and 1983. Fourth graders did not improve since the last testing, however.

The consistent fourth grade performance is cause for some concern. According to educators from around the state who reviewed the results in earlier years, there were major areas of weakness shown by the assessment. Unfortunately, it is probable that many of those weak areas still exist in 1985.

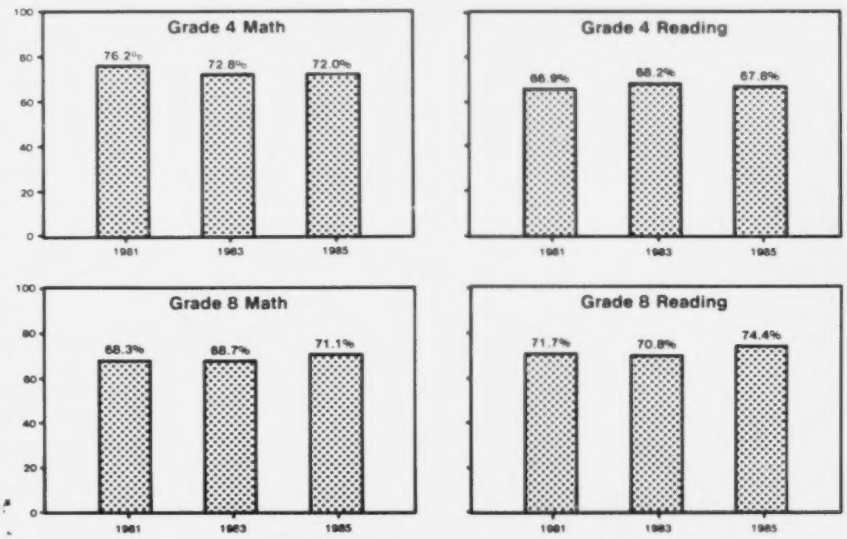
There are, no doubt, still some weaknesses in the eighth graders' test performance as well. But unlike the fourth graders, grade 8 students have improved substantially in the past two years. Additional analyses will give more precise information about the relative performances of the two grade levels.

Other Reports To Follow

Assessment Report 11 is the first of several reports planned to disseminate results of the 1985 Alaska Statewide Assessment. Assessment Report 12, which will be prepared at the beginning of the 1985-86 school year, will highlight the deliberations of the Interpretive Panel -- deliberations which result in statements of the strengths and weaknesses shown by the assessment.

Later in the fall, Assessment Report 13 will discuss test results achieved by various subgroups of students : those from rural schools compared to those from borough schools, those of Native students compared to non-Native students, those from large districts compared to those from small districts, and so on. Because similar comparisons were made after the 1981 and 1983 tests, it will be possible to see if there have been changes over time in how these subgroups have scored.

Results of a comprehensive evaluation of the Alaska Statewide Assessment Program will also be provided to readers. This evaluation, conducted during the 1984-85 school year, has sought to determine if the assessment -- as presently designed -- is meeting critical information needs of decision makers at the state and local levels. Legislators, State Board of Education members, staff of the Department of Education, and local district staff have all been queried. That input is being used as Department staff review current assessment policies and procedures.



Statewide Achievement Levels

as shown by the Alaska Statewide Assessment

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Indicator

(continued from page 1)

satisfied with the results. If not, curriculum or instruction revisions might be warranted.

Each assessment test includes six subtests, which range from ten to sixteen items in length. The items, written by professional test developers based on specifications developed by the content panels, were reviewed and then pilot tested to make sure that they were understandable to students like those who would be taking them as part of the assessment. Review copies of the tests are available from the Department of Education.

The objectives selected by the content panels are a subset of those included in a comprehensive collection called the Alaska Objectives and Items Bank (AOIB). There have been relatively few changes in the skills measured during the last three assessments (1981, 1983 and 1985). The content panels, by agreeing to keep testing the same objectives, have confirmed their belief that the skills on the test are useful measures of statewide performance even though each district may have different curriculum priorities. In addition, the stability of the test has made comparisons of performance across years possible, something which could not be done prior to 1981.

The content panels and assessment staff also included a small number of items previously tested in 1981 in the 1985 test. This will allow comparisons of performance across years that are unaffected by inadvertent changes in item difficulty, since statistical analyses can tell whether any changes between years are more than chance variations. A subsequent Assessment Report newsletter will provide more detailed information on these comparisons.

MAKING SENSE OF THE NUMBERS

The Work of the Interpretive Panelists

In addition to fifteen thousand fourth and eighth graders, a group of eighty state educators also "took" the assessment test recently as part of the Interpretive Panel process.

These educators were nominated by the NEA-Alaska Board of Directors because of their knowledge of educational expectations throughout the state. Together with the curricular input provided by the state's professional associations, NEA's participation serves as another validity check on the tests. The panelists' charge was to review each item in one of the assessment test sections and make two judgements. The first was an estimate of the minimum percentage of students who must get an item correct in order for performance to be considered acceptable. The second estimate was their goal for the percentage of students answering an item correctly -- the percentage of students panelists realistically could expect to get the item right.

The average minimum and desired percentages will be computed for each item across all Interpretive Panel members and then compared to the actual student performance. When the actual performance onon an item is above the desired percentage, it is considered an area of weakness. If it is between the minimum and desired percentage, it is considered satisfactory performance.

As in 1983, results from the Interpretive Panel will be matched with the Alaska State Reading Association and Alaska Council of Reading Association and Alaska Council of Teachers of Mathematics statements of desired curriculum. They will also be reviewed in the context of the reading and mathematics model curricula currently being finalized by the Department of Education.

Keep mind that the strengths, weaknesses and satisfactory performances will relate only to statewide results; local districts may have very different ideas of what constitutes acceptable performance for their students. For that reason, it is both possible and desirable for districts to conduct their own Interpretive Panel process. In fact, all districts have requested item-by-item performance data for their students, which is a necessary first step in conducting meaningful interpretations. Many districts have also requested the Apple II program that will allow them to efficiently compute average minimum and desired results. For those districts that are planning to conduct their own Interpretive Panel, all information necessary to do so will be available early next fall.

The 1985 Panelists

The following educators have been asked to serve as members of the 1985 Statewide Interpretive Panels. The Department appreciates their assistance.

Gary Bagley, Sitka
Marcia Baker, Palmer
Patrick Banks, Fairbanks
Gail Cook, Kodiak
Jim Cook, Kotzebue
Kathleen Davis, Fairbanks
Kay Graham, Anchorage
Kerstin Hanel, Wasilla
Lary Hill, Iliamna
Jackie Imle, Kenai
Judy Ireton, Anchorage
Nancy Jackson, Anchorage
Helen Kimball, Fairbanks
Valaree Kincaid, Anchorage
Steven Kortie, Anchorage
Barbara McDuffy, Fairbanks
Patti Prusak, Anchorage
Marilyn Rosene, Dillingham
Alice Tower, Anchorage
Donna Van Wechel, Fort Yukon
Stan Carlson, Palmer
Diana Dexter, Nuiqsut
Janet Dodson, Kiana
Lori Gage, Anchorage
Dianne Hesser, Fairbanks
Gale Holfert, Kodiak
Paul Jarvi, Ketchikan
Barbara Maki, Anchorage
Kathryn McCord, Anchorage
Steve McCoy, Anchorage
Karen Murray, Fairbanks
Jacquelyn Parrish, Ketchikan
Jean Petticrew, Wrangell
Mickey Rosvold, Petersburg
John Rusyniak, Central
Ferdinand Sharp, Manokotak
Dee Stickman, Nulato
Barbara Varney, Willow
Erlynn Vest, Anchorage
Kathy Wayne, Wrangell
Doris Ayres, Eagle River
Nathan Bagley, Soldotna
Brad Bowers, Nuiqsut
Will Files, Fort Yukon
Lynn Grossman, Juneau
Mavis Hancock, Anchorage
Sue Hanson, Juneau
Gayle Harbo, College
Patsy Hjalmarson, Kaktovik
Rich Houghton, Noatak
Pam Korber, Metlakatla
Patricia McDonald, Ketchikan
Irene Murphy, Barrow
John Nuttall, Kodiak
Jim Schwartz, Petersburg
Charlie See, Kenai
Barbara Shands, Anchorage
Charles Strauss, Anchorage
Joann Walker, Kotzebue
Mavis Wheeler, Anchorage
Paul Allan, Thorne Bay
Mary Borthwick, Juneau
Brian Castle, Craig
Ned Caum, Wrangell
Bill Chalmers, Eek
Loretta Christie, Anchorage
Evelyn Hamilton, Anchorage
Bettie Hardwick, Anchorage
Marlys Henderson, Fairbanks
Tyler Henshaw, Petersburg
Gerald Irvin, Seward
David Jaynes, Kodiak
Patricia Jones, Bethel
Larry Meath, Fairbanks
Paul Ongtooguk, Kotzebue
Robert Price, Hydaburg
LeAnn Ronsse, Kwigillingok
Susan Rostin, Anchorage
Carolyn Thiesen, Anchorage
Jody Vignola, Fairbanks

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This sheet may be detached for your files.

1985 Alaska Statewide Assessment
Statewide Performance

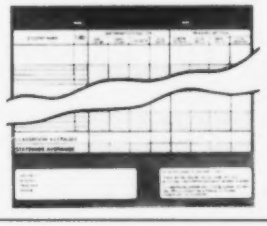
Information about the performance on the 1985 Assessment compared to that obtained in 1981 and 1983 has been presented in the first pages of Assessment Report 11. This sheet gives information that will allow teachers and principals to determine how their students did on the test compared to other students around the state. Assessment Report 13, which will be in schools next fall, will describe results for various subgroups of students (e.g., those from large districts, bilingual students, and so on).

	Mathematics		Reading	
Grade 4	**Application** 66.2%	**Concepts** 72.4%	**Comprehension** 73.4%	**Word Skills** 69.7
	Computation 76.2%	**Total Math** 72.0%	**Study Skills** 59.7%	**Total Reading** 67.8%
Grade 8	**Application** 77.6%	**Concepts** 62.2%	**Comprehension** 74.4%	**Word Skills** 79.2%
	Computation 73.5%	**Total Math** 71.7%	**Study Skills** 69.9%	**Total Reading** 74.4%

Statewide Average Scores in 1985

Space for these scores is provided on the class report form which was sent to each school earlier this spring. If you wish, you can write the scores above in the appropriate boxes in the Statewide Averages line of the report form, as shown here.

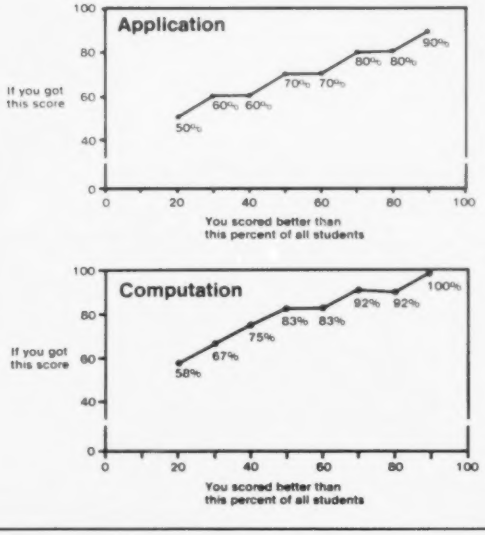
Insert averages here

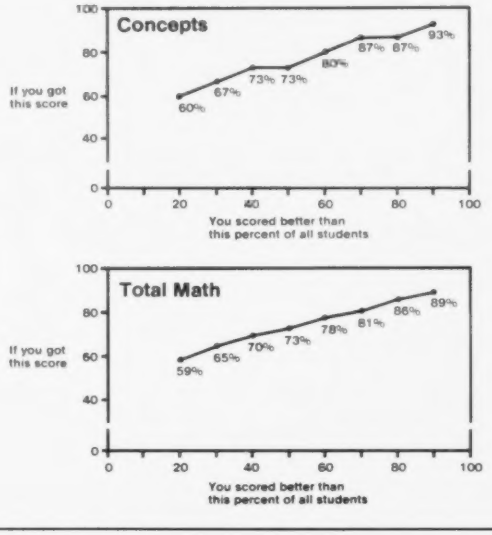


Comparing Your Students' Performance

The Alaska Statewide Assessment is not a normed test; that is, there are no statistical tables that allow precise comparisons of individual and group scores with those attained by students throughout the state. But many persons find comparative information a useful addition to the interpretation of test scores. To help such people, the following graphs have been prepared. To use the graphs, choose the score you would like to compare--for illustrative purposes, say that your fourth grade math application class average was 60%. By looking at the first graph below, you can see that your score of 60 was better than 40% of all fourth grade students' scores. If your average score were 72%, your class--on the average--would have done better than slightly more than 60% of all Alaskan fourth graders.

GRADE 4 MATH


Application
If you got this score
50% 60% 60% 70% 70% 80% 80% 90%
You scored better than this percent of all students
Computation
If you got this score
58% 67% 75% 83% 83% 92% 92% 100%
You scored better than this percent of all students


Concepts
If you got this score
60% 67% 73% 73% 80% 87% 87% 93%
You scored better than this percent of all students
Total Math
If you got this score
59% 65% 70% 73% 78% 81% 86% 89%
You scored better than this percent of all students

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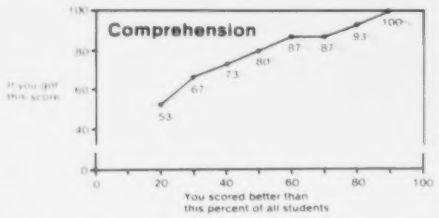
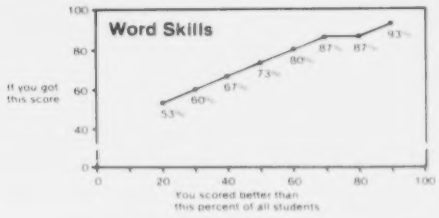
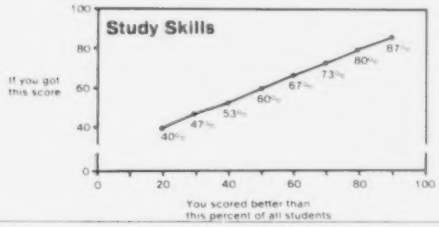
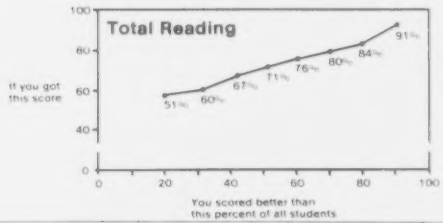
GRADE 4 READING

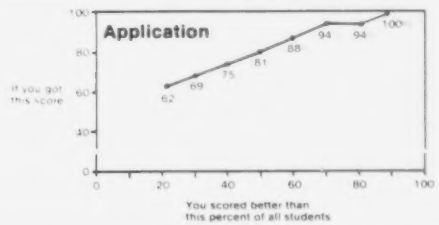


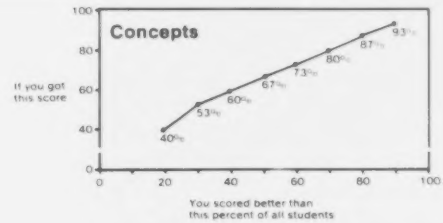


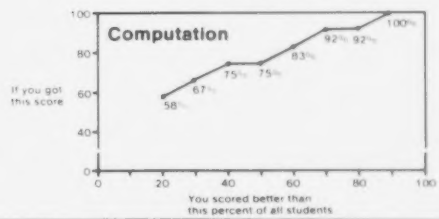


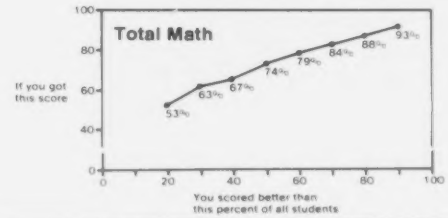


GRADE 8 MATH

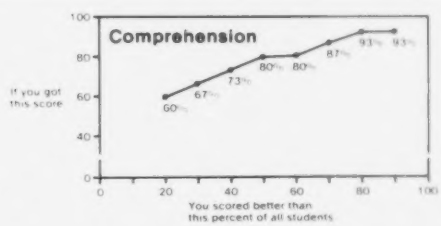


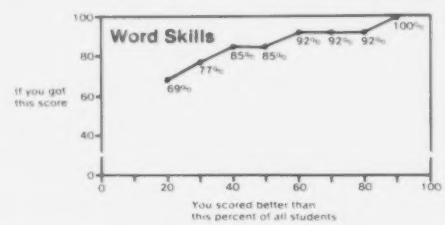


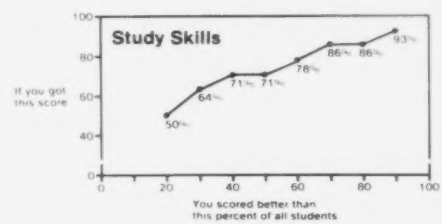


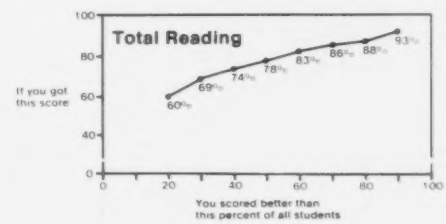


GRADE 8 READING









Limitations on the Scores

The Alaska Statewide Assessment is a very good test from a technical point of view; its reliability and validity are quite high. But like any test, it does not provide perfect measurement. More importantly, test scores are only one piece of information available to teachers, parents and others to help make decisions about students and educational programs. For both these reasons, it would be a mistake to use assessment scores alone to make educational decisions.

In addition, each district must decide whether the objectives measured by the Statewide Assessment are important in the local context. Even if the assessment objectives match the local curriculum, it may be that specific skills are not taught in one district until after the assessment is administered in late March of the fourth and eighth grade year. In short, the assessment scores can provide useful information, but the limitations of such data should be kept in mind.

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Subtest Performances Vary
But Study Skills Still a Problem for Both Grades

Elsewhere in this newsletter, statewide average scores are given for the total math and reading performance of the fourth and eighth grade students taking the 1985 Statewide Assessment Test. These results indicate that eighth graders' achievement seems to be improving, while fourth graders' scores are largely unchanged from those reported after the 1983 assessment. Statewide information is also available on each of three reading and mathematics subtests at each grade.

There is no consistency in the pattern of math scores between fouth and eighth grade. The fourth graders' highest subtest was in Math Computation and their lowest was in Math Application (about ten percentage points lower than in Computation). But Math Application was the eighth graders' best subtest; their poorest performance was in Math Concepts (about fifteen percentage points lower than Application).

The situation was different in reading. Ever since it was added to the test in 1981, the Study Skills subtest has troubled students. That situation did not change in 1985; for both fourth and eighth graders, Study Skills was the lowest subtest. Fourth graders' best performance was in Reading Comprehension (about fourteen percentage points higher than Study Skills), while eighth graders' was in Word Skills (about ten percentage points better than Study Skills).

Variations in subtest scores are due in part to differences in the difficulty of the items used; there is no expectation that students would score the same on each subtest. But previous Interpretive Panels, who compared students' actual scores with their performance expectations, indicated that the low Study Skills scores are really a sign of limited achievement in this area. More details will be forthcoming as the items from Study Skills and the other subtests are analyzed individually; this information will be provided in the Assessment Report newsletters to be sent to schools next fall.

Ever since it was added in 1981, the Study Skills subtest has troubled students. That situation did not change in 1985 . . . Those who reviewed results think this is really a sign of limited achievement.

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